

REMARKS

Claims in the case are 1-15 upon entry of this amendment. Claim 15 has been added, no claims have been amended, and no claims have been cancelled herein.

Basis for added Claim 15 is found in Figures 1-3 and at page 12, line 29 through page 13, line 17 of the specification, and in drawing figures 1, 2 and 3.

The paragraphs at page 12, line 29 through page 13, line 9, and page 13, lines 11-17 have been amended to recite the "rivet shaft 7" as a --solid rivet shaft 7--. Basis for the amendment to these paragraphs is found in the drawing figures where rivet shat 7 is clearly depicted as being solid.

Figure 3 has been amended herein to include reference character "7" and an associated lead line. Basis for this amendment to figure 3 is found in the paragraph at page 13, lines 11-17 of the specification.

Applicants note with appreciation the withdrawal of: the previous rejection of Claims 1-3, 6-10 and 12-14 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 4,973,102 (**Bien**); and the previous rejection of Claims 1, 4-6, 7, 9-11 and 14 under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,580,122 (**Muehlhausen**). In addition, Applicants note with appreciation the withdrawal of the previous objection to Claim 5.

Claims 1-3 and 5-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bien in view of United States Patent No. 3,458,618 (**Burns et al**). This rejection is respectfully traversed in light of the following remarks.

Bien discloses a fastening arrangement for plastic to metal parts which includes attaching a plastic panel and metal mounting strip sub-assembly to an automotive body metal sub-structure. The attachment arrangement of Bien includes the following essential components:

- (i) a plastic panel (e.g., plastic fender 14) having circular perforations (e.g., 20);

- (ii) an automotive body metal sub-structure (e.g., metal frame members 38 and 36) connected to a metal mounting strip (e.g., metal angle 16) having elongated perforations (e.g., 24), which are aligned with the circular perforations of the plastic panel;
- (iii) a **metal** spacing washer (e.g., 40);
- (iv) a hollow **metal** rivet having a rivet body (e.g., 72) and a rivet head (e.g., 74, see Figure 10) that extends through the aligned holes of the plastic panel and metal mounting strip (see Figure 4); and
- (v) a **metal** blind break-stem rivet that is inserted through and resides within the hollow metal rivet and metal spacing washer (e.g., see Figure 12). See also the abstract of Bien.

Bien's fastening arrangement is separate and distinct from each of the plastic panel, the metal mounting strip and the automotive body metal sub-structure. In particular, the fastening arrangement of Bien is separate from and is not continuous with the plastic panel. In Figures 4 and 12, for example: the metal rivet, which includes, metal rivet head (74), metal rivet body (72), integral metal shank (76) and tolerance compensating ring (80) (see also Figure 10); metal spacing washer 40; and metal blind break-stem rivet 70 are each separate from and are not continuous with plastic fender (14).

In summary, Bien discloses fastening a plastic panel to a metal mounting strip / metal sub-structure by means of the combination of a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Bien does not disclose, teach or suggest a fastening arrangement that is formed from plastic. In addition, Bien does not disclose, teach or suggest a fastening arrangement that is continuous with the plastic panel.

Burns et al disclose a method of fastening a thermoplastic sheet to one or more other members by means of hollow plastic rivets that are integral with the plastic sheet (abstract). The plastic rivets of Burns et al are formed by a plunger that drives the plastic of a thermoplastic upper plastic member through an opening in a lower member and into a circular channel in a base plate (column 3, lines 14-28). The plastic rivets formed in accordance with the disclosure of Burns et al necessarily have a channel (e.g., opening 21 of Figure 5) passing through the center thereof.

Burns et al provide no disclosure or suggestion as to joining a thermoplastic sheet to one or other members by means of a metal rivet, or a combination of metal components, such as a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Burns et al provide no disclosure or suggestion with regard to the annular openings (e.g., 13 and 18, Figure 1) in the lower member (e.g., 11, Figure 1) being in the form of an elongated perforation.

The fastening arrangement of Bien is disclosed as necessarily including a combination of metal components which includes a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Bien does not disclose or suggest a fastening arrangement that is integral with the plastic panel that is fastened to the metal substructure. Bien does not disclose, teach or suggest a fastening arrangement that is formed from a single component, or a single plastic component, such as a plastic rivet. The fastening arrangement of Bien also necessarily includes elongated perforations in the metal substructure (that are aligned with circular perforations in the plastic panel).
Burns et al disclose fastening an upper thermoplastic member to a lower member by means of a hollow thermoplastic rivet that is integral with the upper thermoplastic panel, and which passes through a circular opening in the lower member.
Burns et al do not disclose, teach or suggest joining a thermoplastic sheet to one or other members by means of a metal rivet, or a combination of metal components, such as a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Burns et al do not disclose or suggest the presence of an elongated perforation in the lower member.

In light of their disparate disclosures, neither Bien nor Burns et al provide the requisite disclosure, teaching or suggestion that would motivate a skilled artisan to combine or otherwise modify their respective disclosures. As the Court of Appeals for the Federal Circuit has stated, there are three possible sources for motivation to combine references in a manner that would render claims obvious. These are (1) the nature of the problem to be solved, (2) the teaching of the prior art, and (3) the knowledge of persons of ordinary skill in the art, *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1458 (Fed. Cir. 1998). The nature of the problem to be solved and the knowledge of

persons of ordinary skill in the art are not present here and have not been relied upon in the rejection. As for the teaching of the prior art, the above discussion has established that neither of the patents relied upon in the rejection provide the requisite teaching, and certainly do not provide the motivation or suggestion to combine that is required by Court decisions.

It appears that the rejection impermissibly uses Applicants' application as a blueprint for selecting and combining or modifying the prior art to arrive at Applicants' claimed invention, thereby making use of prohibited hindsight in the selection and application of that prior art. The use of hindsight reconstruction of an invention is an inappropriate process by which to determine patentability, *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998). See also, *In re Fritch*, 972 F.2d 1260 (Fed. Cir. 1992). "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Modifying "prior art references without evidence of such a suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999).

On page 4 of the Office Action of 3 October 2003, it is argued that the limitations of Claims 9 and 10 (as to forming Applicants' composite structural article by injection molding of thermoplastic material onto at least a portion of the surface of core body (a), the injected thermoplastic material extending through at least some of the perforations in the core body thereby forming the joining elements) is indistinguishable from the plastic rivets of Burns et al. Applicants respectfully disagree. The hollow plastic rivets of Burns et al are formed by a plunger that drives the plastic of a thermoplastic upper plastic member through an opening in a lower member and into a circular channel in a base plate. As such, the hollow plastic

rivets of Burns et al have a substantial degree of internal stress, and the polymer molecules thereof are substantially uniaxially oriented, as would be recognized by a skilled artisan. In fact, Burns et al admit that their plastic rivets are uniaxially oriented.

“... the plunger forms a **uniaxially oriented** connecting sleeve 19 between the rivet lock 20 and the upper plastic member 10.”

See column 3, lines 58-60, and Figure 3 of Burns et al. (emphasis added).

In contrast, the joining elements of Applicants' claims, when formed by injection molding, have a minimal degree of internal stress and a minimal degree of uniaxial orientation, as would be recognized by a skilled artisan. The injected thermoplastic material is molten and flows through the perforations in the core body (a), followed by cooling and solidification which results in the formation of joining elements that are continuous with plastic part (b), and which have a minimum degree of internal stress and a minimal degree of uniaxial orientation. As such, the hollow plastic rivets of Burns et al are substantially differentiated from and are physically dissimilar relative to the thermoplastic joining elements of Applicants' Claims 9 and 10.

On page 2 of the Advisory Action of 21 November 2003, it is argued that one of ordinary skill in the art would somehow modify the fastening arrangement of Bien (which is composed of (i) a separate plastic panel, (ii) a separate metal washer, (iii) a **separate hollow metal rivet**, and (iii) a **separate metal blind-stem rivet**) with the **integral hollow plastic rivets of Burns et al**. Applicants respectfully disagree. As discussed previously herein, but for the impermissible use of hindsight reconstruction and in light of their disparate disclosures, neither Bien nor Burns et al provide the requisite disclosure, teaching or suggestion that would motivate a skilled artisan to combine or otherwise modify their respective disclosures.

In light of the preceding remarks, Applicants' claims are deemed to be unobvious and patentable over Bien in view of Burns et al. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Bien in view of Burns et al, as applied to Claims 1-3 and 5-14, and further in view of United States Patent No. 6,547,317 B1 (**Cheron et al**). In light of the following remarks, this rejection is respectfully traversed.

In Applicants' Claim 4, plastics part (b) is described as forming a rib structure having a plurality of intersecting ribs, and the joining elements are located at the intersections of the ribs.

Cheron et al disclose a motor vehicle structural component that includes: a functional part of molded plastic, and a structural part that includes two rigid assemblies - an array of stiffening ribs and metal reinforcements (abstract). The functional part and one of the rigid assemblies (e.g., the metal reinforcements) are formed as one part by over-molding of plastic onto the rigid assembly (abstract). The other rigid assembly (e.g., the array of stiffening ribs) is attached to the plastic over-molded rigid assembly by means of snap-fasteners (abstract, and Figure 11). The plastic snap-fasteners of Cheron et al are an essential element of their motor vehicle structural component.

Bien and Burns et al have each been discussed previously herein. Bien discloses fastening a plastic panel to a metal mounting strip / metal sub-structure by means of the combination of a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer. Burns et al disclose fastening an upper thermoplastic member to a lower member by means of a hollow thermoplastic rivet that is integral with the upper thermoplastic panel, and which passes through a circular opening in the lower member.

As discussed previously herein, neither Bien nor Burns et al provide the requisite disclosure that would motivate a skilled artisan to combine or otherwise modify their disclosures. In particular: the fastening arrangement of Bien is disclosed as necessarily including a combination of metal components which includes a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer; while Burns et al disclose fastening an upper thermoplastic member to a lower member by means of a hollow thermoplastic rivet that is integral with the upper thermoplastic panel, and which passes through a circular opening in the lower member. Bien does not disclose, teach or suggest a

fastening arrangement that is formed from a single component, or a single plastic component, such as a plastic rivet. Burns et al do not disclose, teach or suggest joining a thermoplastic sheet to one or other members by means of a metal rivet, or a combination of metal components, such as a metal blind break-stem rivet which extends through a hollow metal rivet which extends through a metal spacing washer.

Neither of Bien nor Burns et al disclose the use of plastic snap-fittings in their structural articles. Plastic snap-fasteners are an essential element of the motor vehicle structural component of Cheron et al. As such, Bien, Burns et al and Cheron et al do not provide the requisite disclosure that would motivate a skilled artisan to combine or otherwise modify their disclosures. See *In re Rouffet, supra*.

The present rejection appears to impermissibly use Applicants' application as a blueprint for selecting and combining or modifying the prior art to arrive at Applicants' claimed invention, thereby making use of prohibited hindsight in the selection and application of that prior art. Modifying "prior art references without evidence of such a suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999).

Even if Bien, Burns et al and Cheron et al were combined, Applicants' composite structural article would not result therefrom. Applicants' claimed composite structural article does not include plastic snap-fasteners. See Claim 1 and the drawing Figures. The core body and the plastics part of Applicants' claimed composite structural article are described as being joined together by an interlocking engagement (not a reversibly interlocking engagement) of the joining element therebetween (Claim 1).

In light of the preceding remarks, Applicants' claims are deemed to be patentable and unobvious over Bien in view of Burns et al, and further in view of Cheron et al. Reconsideration and withdrawal of this rejection is respectfully requested.

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to define an invention that is unanticipated, unobvious and hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims is respectfully requested.

Respectfully submitted,

By 
James R. Franks
Agent for Applicants
Reg. No. 42,552

Bayer Polymers LLC
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-3808
FACSIMILE PHONE NUMBER:
(412) 777-3902
s/rmc/jrf/0184

APPENDIX
Drawing Sheet 1
With Amendments to Figure 3